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| 10/065,866      | 11/26/2002  | Muthuvelan Varadharajulu | 129716              | 3390             |

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| EXAMINER |
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SANTOS, ROBERT G

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| ART UNIT | PAPER NUMBER |
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3673

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/065,866

Applicant(s)

VARADHARAJULU ET AL.

Examiner

Robert G. Santos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 and 14-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8, 19 and 26-36 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12, 14-18 and 20-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 5, 6, 9, 10, 17 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of Uosaki et al. '893, and further in view of U.S. Pat. No. 4,435,862 to King et al. Nonaka et al., as modified by Uosaki et al. '893 (see Figure 8 and column 5, lines 38-68), are considered to show all of the claimed limitations as recited in claims 1, 2, 5, 6, 9, 10, 17 and 20-24 except for a tilt subsystem including a ball screw and rotary nut. King et al. provide the basic teaching of a patient positioning system (10) utilizing a ball screw and rotary nut assembly (48a, 50a or 48b, 50b) in order to effect tilting of the patient support surface (11, 12, 14) thereof. The skilled artisan would have found it obvious at the time the invention was made to provide the patient positioning system of Nonaka et al. '760, as modified by Uosaki et al. '893, with a tilt subsystem including a ball screw and rotary nut in order to provide an alternate conventional means for efficiently tilting the patient positioning surface as desired.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of Kamata '600 and further in view of King et al. '862. Nonaka et al., as modified by

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Kamata '600 (see Figures 5A & 5B and column 3, lines 15-42), do not specifically disclose the use of a tilt subsystem including a ball screw and rotary nut. King et al. provide the basic teaching of a patient positioning system (10) utilizing a ball screw and rotary nut assembly (48a, 50a or 48b, 50b) in order to effect tilting of the patient support surface (11, 12, 14) thereof. The skilled artisan would have found it obvious at the time the invention was made to provide the patient positioning system of Nonaka et al. '760, as modified by Kamata '600, with a tilt subsystem including a ball screw and rotary nut in order to provide an alternate conventional means for efficiently tilting the patient positioning surface as desired.

4. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of Uosaki et al. '893 and King et al. '862 and further in view of Velazquez '571. Nonaka et al. '760, as modified by Uosaki et al. '893 and as further modified by King et al. '862, do not specifically disclose the use of patient restraints. Velazquez '571 provides the basic teaching of a patient positioning system (10) provided with patient restraints (12, 14) to minimize body motion of a patient during an imaging procedure "so as to ensure high image quality" (see Velazquez '571, column 1, lines 11-21, 27-34, & 44-47). Since it would be advantageous to collect data having good image quality during a routine patient imaging procedure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the patient positioning system of Nonaka et al. '760, as modified by Uosaki et al. '893 and as further modified by King et al. '862, to include patient restraints as taught by Velazquez '571.

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5. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of Pattee '428 and further in view of King et al. '862. As concerns claim 4, Nonaka et al., as modified by Pattee '428 (see Figures 1 & 4-7; column 1, lines 65-67; column 2, lines 1-3 & 14-17; column 3, lines 25-67; column 4; and column 5, lines 1-20) do not specifically disclose the use of a tilt subsystem including a ball screw and rotary nut. King et al. provide the basic teaching of a patient positioning system (10) utilizing a ball screw and rotary nut assembly (48a, 50a or 48b, 50b) in order to effect tilting of the patient support surface (11, 12, 14) thereof. The skilled artisan would have found it obvious at the time the invention was made to provide the patient positioning system of Nonaka et al. '760, as modified by Pattee '428, with a tilt subsystem including a ball screw and rotary nut in order to provide an alternate conventional means for efficiently tilting the patient positioning surface as desired.

6. Claims 11, 15, 16 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. '760 in view of King et al. '862. Nonaka et al. are considered to show all of the limitations as recited in claims 11, 15 and 16 (see Figures 2-4 & 9-13; column 6, lines 31-41; column 8, lines 6-43; column 9, lines 7-17; column 10, lines 54-57; column 11, lines 65-67; column 12, lines 1-3 & 14-17; and column 13, lines 19-21) except for the step of returning the patient positioning surface to a horizontal starting position for emergency situations. King et al. '862 provides the basic teaching of a patient support assembly (10) having a support surface which assumes a lowered, horizontal position in the event of an emergency (as described in column 9, lines 22-41). The skilled artisan would have found it obvious at the time the invention was made to return the patient positioning surface of the system of Nonaka et al. '760 to a

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horizontal starting position for emergency situations “in order to facilitate access to [the] patient [in] the bed in the event of an emergency situation”, thereby ensuring enhanced user comfort (see King et al. ‘862, column 9, lines 22-23).

Furthermore, Nonaka et al. are considered to show all of the limitations as recited in claim 25 (see also Figure 12; column 8, lines 66-67; column 9, lines 1-17; column 10, lines 43-48; and column 12, lines 42-44) except for a tilt subsystem including a ball screw and rotary nut. King et al. provide the basic teaching of a patient positioning system (10) utilizing a ball screw and rotary nut assembly (48a, 50a or 48b, 50b) in order to effect tilting of the patient support surface (11, 12, 14) thereof. The skilled artisan would have found it obvious at the time the invention was made to provide the patient positioning system of Nonaka et al. ‘760 with a tilt subsystem including a ball screw and rotary nut in order to provide an alternate conventional means for efficiently tilting the patient positioning surface as desired.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nonaka et al. ‘760 in view of King et al. ‘428 and further in view of Velazquez ‘571. Nonaka et al., as modified by King et al., do not specifically disclose the step of securing the patient to the patient positioning surface. Velazquez ‘571 provides the basic teaching of a patient positioning system (10) provided with patient restraints (12, 14) to minimize body motion of a patient during an imaging procedure “so as to ensure high image quality” (see Velazquez ‘571, column 1, lines 11-21, 27-34, & 44-47). Since it would be advantageous to collect data having good image quality during a routine patient imaging procedure, it would have been obvious to one of ordinary skill

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in the art at the time the invention was made to modify the patient positioning system of Nonaka et al. '760, as modified by King et al., to include patient restraints as taught by Velazquez '571.

***Response to Amendment***

8. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

9. Claims 8, 19 and 26-36 are allowed.

***Conclusion***

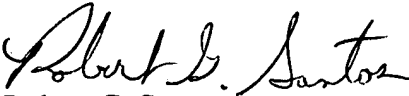
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Somasundaram '147, Somasundaram '757, Somasundaram '756, Birkmann '243 and Bailey '754.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert G. Santos whose telephone number is (571) 272-7048. The examiner can normally be reached on Tues-Fr and first Mondays, 10:30 a.m. to 8:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on (571) 272-7049. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Robert G. Santos  
Primary Examiner  
Art Unit 3673

R.S.  
April 16, 2005